

# (12) UK Patent Application (19) GB (11) 2 349 331 (13) A

(43) Date of A Publication 01.11.2000

(21) Application No 0010077.6

(22) Date of Filing 25.04.2000

(30) Priority Data

(31) PN99U0015 (32) 27.04.1999 (33) IT

(51) INT CL<sup>7</sup>  
A47L 15/50

(52) UK CL (Edition R )  
A4F F29A1E1B2 F29A3A2

(56) Documents Cited  
WO 95/19122 A US 5431294 A US 3799640 A

(71) Applicant(s)

Electrolux Zanussi Spa  
(Incorporated in Italy)  
Via Giardini Cattaneo 3, 33170 Pordenone, Italy

(58) Field of Search  
UK CL (Edition R ) A4F  
INT CL<sup>7</sup> A47L 15/00 15/50  
ONLINE: EPODOC, WPI, JAPIO

(72) Inventor(s)

Daniele Favaro

(74) Agent and/or Address for Service

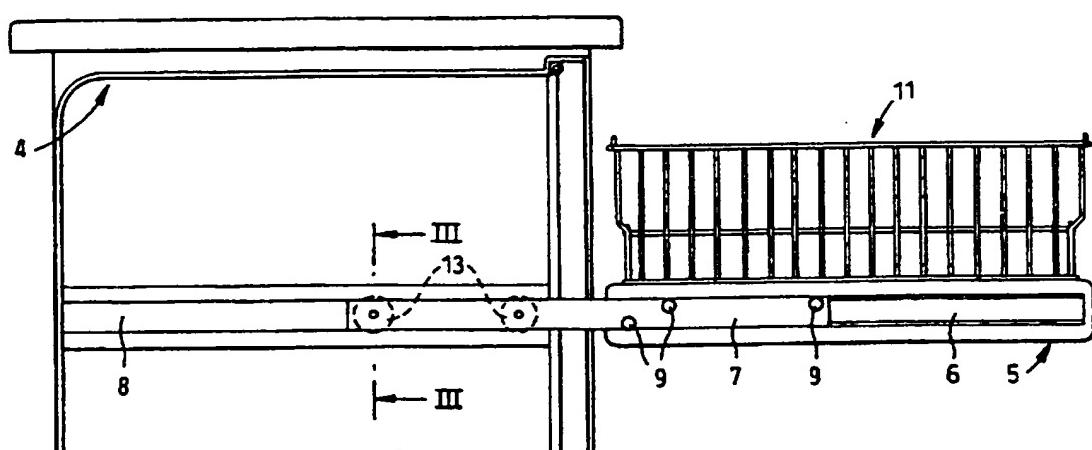
J A Kemp & Co.  
14 South Square, Gray's Inn, LONDON, WC1R 5LX,  
United Kingdom

(54) Abstract Title

Dishwasher with slidably removable basket

(57) A dishwasher comprising comprises a washing compartment 4 in which there is accommodated a basket 11 associated with a body 5 which along the sides of the basket 11 is shaped with longitudinal tracks 6 each co-operating with a slideable support bar 7 which is in turn is engaged slideably with a respective guide parallel 8 provided on a respective side wall of the washing compartment 4. The body 5 may be a support frame capable of removably supporting the basket 11 or a plurality of complementary baskets. The support bars 7 may be connected to the tracks 6 by sliding rollers 9, and to the channels 8 by small wheels 13. The small wheels may be latchingly engaged on elastic pins formed integrally with said bars 7.

Fig.1.



GB 2 349 331

Fig.1.

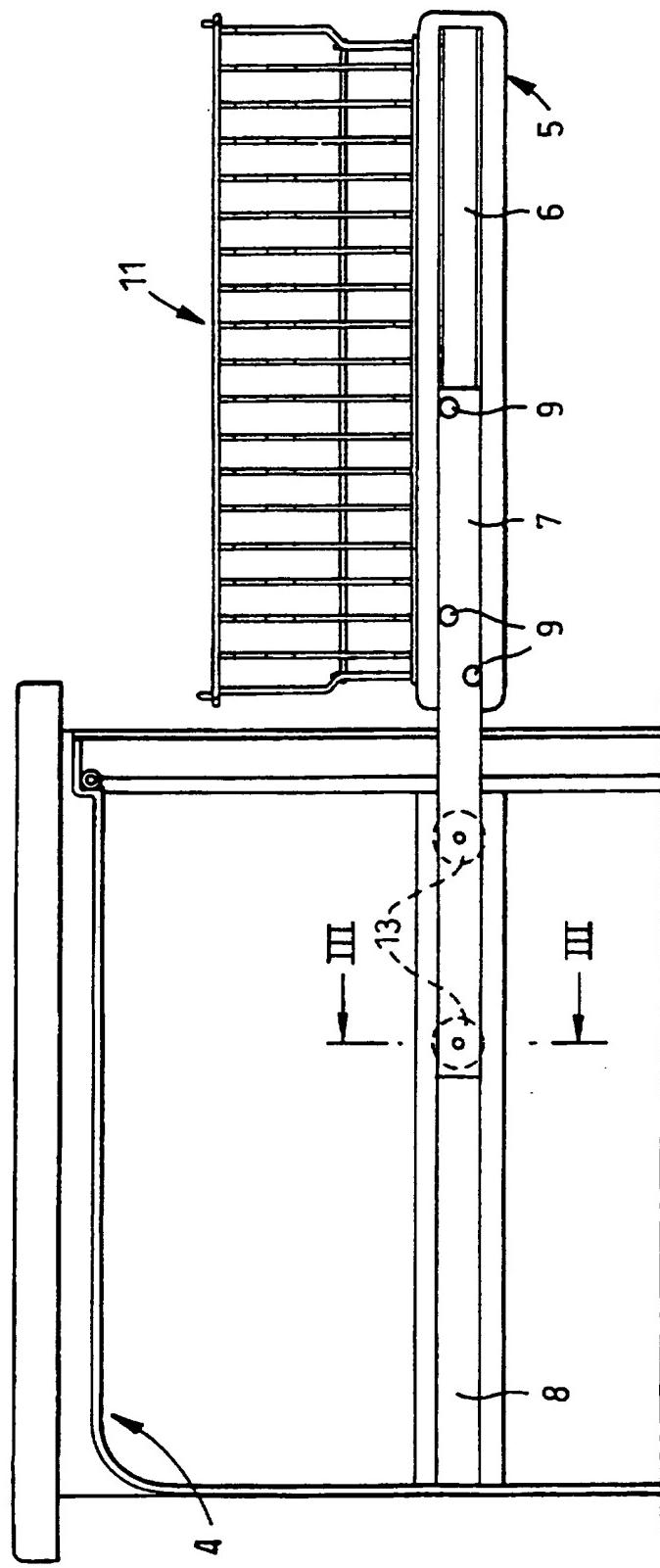


Fig.2.

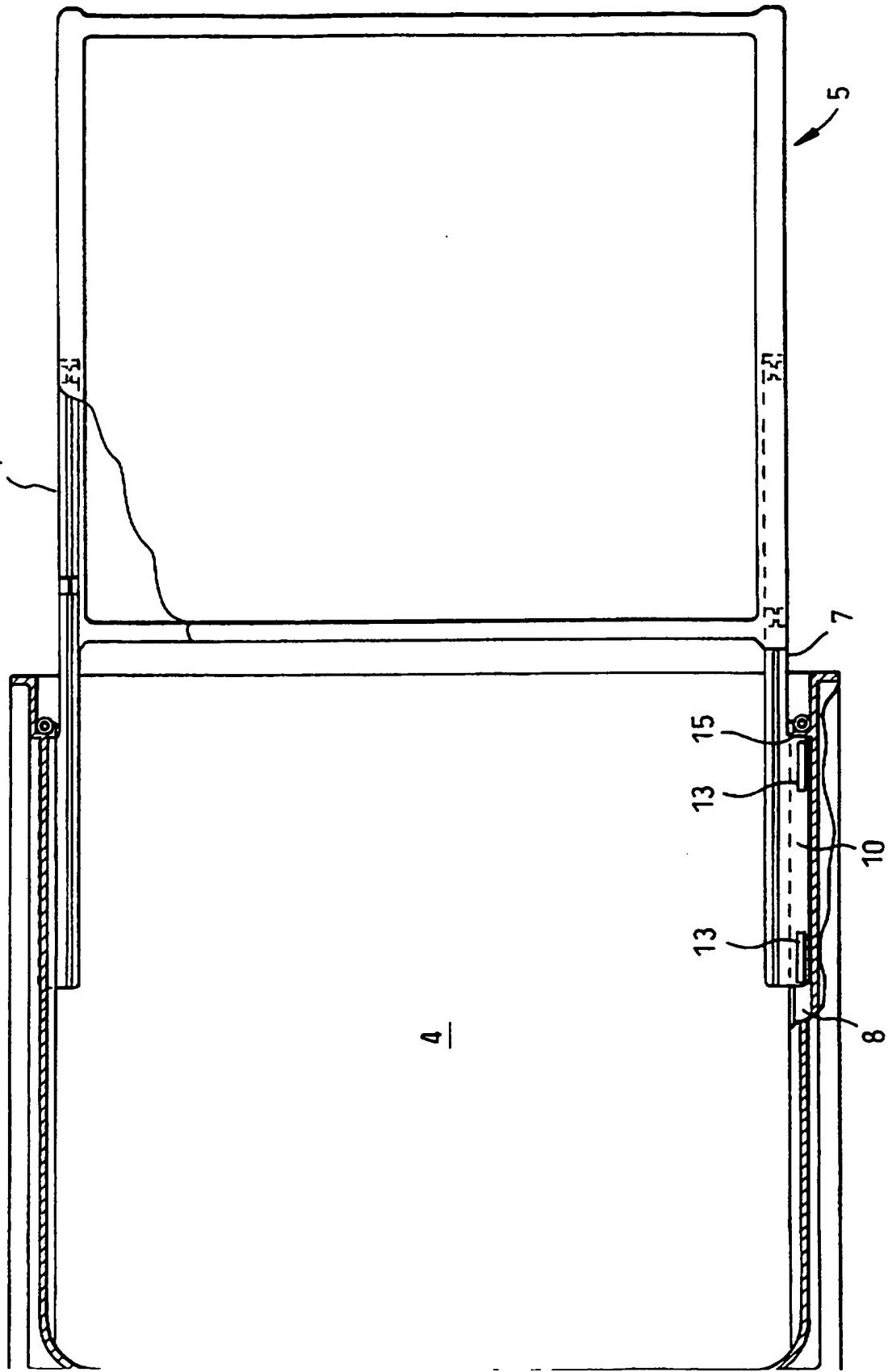
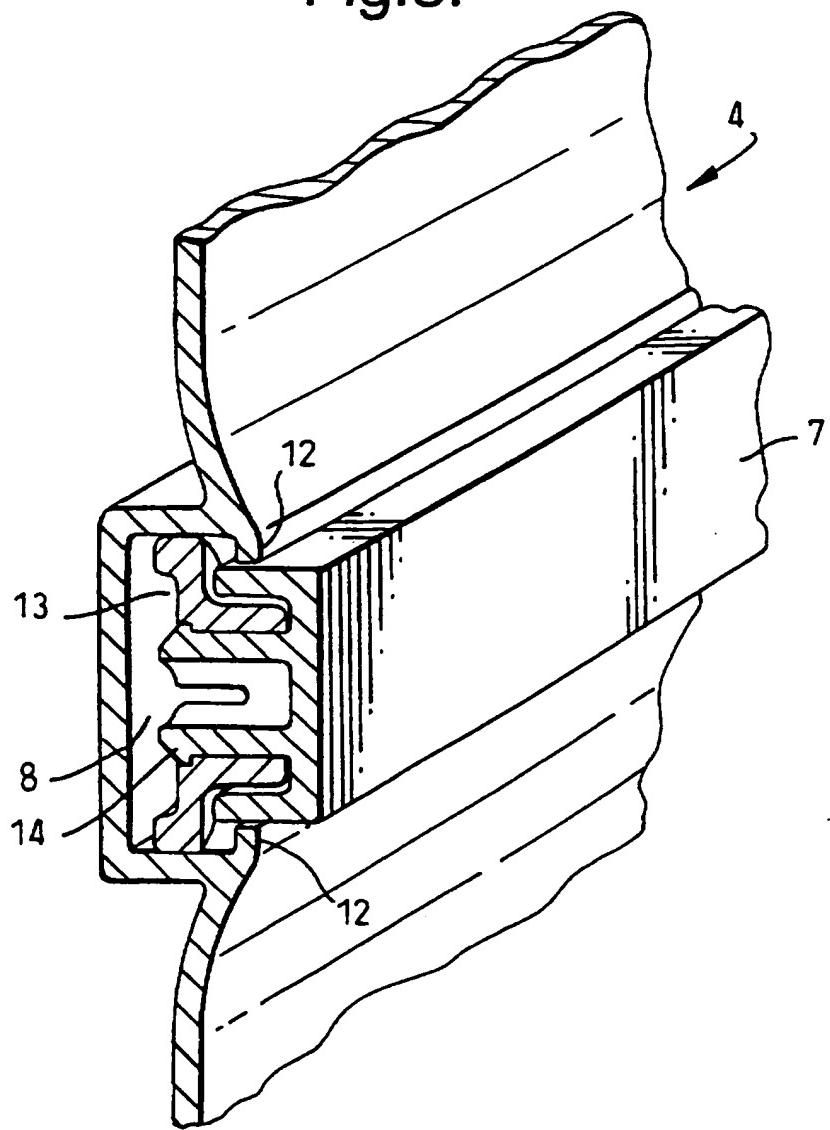


Fig.3.



**DISHWASHER WITH EXTRACTABLE BASKET**

The present invention relates to a dishwasher with at least one basket capable of supporting the dishes and being extracted slidably from a washing compartment for conveniently and easily loading and unloading the dishes.

As is known, dishwashers normally comprise at least an upper basket and a lower basket which can be extracted from and which are connected to the washing compartment by means of lateral guide systems. In particular the guides for the upper basket generally comprise shaped members which are slidable with respect to pairs of rollers aligned horizontally on the side walls of the washing compartment. In addition the basket is connected to the shaped members slidably by means of small wheels which are rotatably mounted on the sides of the basket itself.

Normally the rollers are rotatable on pins screwed into respective through holes which are provided on the sides of the washing compartment and which obviously must be closed to afford hydraulic sealing integrity by means of suitable seals which undesirably complicate the structure and manufacture of the entire dishwasher.

Alternatively the pins for the rollers, with respect to which the shaped members slide, can be welded to the walls of the washing compartment (whenever the components in question are of metal) but in this case also manufacture of the machine is found to be undesirably laborious and expensive.

In order to overcome such disadvantages, IT-A-1 122 325 proposes making the washing compartment of plastics material, the side walls thereof being moulded with shaped seats into which are engaged respective supporting bodies which in their turn support pairs of rollers which slidably support the shaped members, the latter in turn being connected to the baskets for carrying the dishes.

This alternative structure requires an undesirably high number of interconnected components which make assembly thereof a laborious operation. Similarly to the conventional structures moreover the rollers which are fixed to the washing compartment are in an undesirably projecting position and give the interior of the dishwasher an appearance which is not pleasing to the user.

A further disadvantage of all the known structures is the fact that the weight of the upper basket is distributed to the rollers which are fixed to the washing compartment, which therefore are subjected to high mechanical flexural stresses when

the basket loaded with dishes is extracted from the washing compartment. That may involve undesirable deformation phenomena in the slideable guide system and in addition obliges designers to limit the extraction travel movement of the upper basket in order to minimise the flexural deflection. It will be appreciated that these disadvantages cause

5 inconvenience in terms of access to the upper basket on the part of the user.

Therefore the aim of the present invention is that of providing a dishwasher with at least one extractable basket of a particularly simple and rational design configuration.

In particular an aim of the invention is to provide a dishwasher of the  
10 specified type in which the basket is extractable by means of a guide system which requires a limited number of components which are interconnected in a simple and reliable manner.

A further aim of the invention is to provide a dishwasher of the specified type in which the basket is completely extractable from the washing compartment by  
15 means of a guide system which has substantially no projecting member.

According to the present invention there is provided a dishwasher comprising a washing compartment in which is accommodated at least one dish-carrying basket capable of longitudinally sliding in such a way as to be extracted from the washing compartment when a loading door is opened, wherein said basket is associated with at  
20 least one body which along the sides of the basket is shaped with respective longitudinal tracks each co-operating with a slideable support bar which in turn is slidably engaged with a respective guide channel fixed with respect to a respective side wall of the washing compartment.

The features and advantages of the invention will be clearly apparent from  
25 the following description given solely by way of non-limiting example with reference to the accompanying drawings in which:

Figure 1 is a diagrammatic partial side view in section of a dishwasher in a preferred embodiment, shown with the upper basket in the extracted position,

Figure 2 is a diagrammatic partial view in cross-section of the dishwasher  
30 shown in Figure 1, and

Figure 3 shows a detail on an enlarged scale of the dishwasher of Figure 1, taken along section line III-III.

Referring to the drawings, the dishwasher mainly comprises a washing compartment 4 which is preferably made of plastics material and which is capable of accommodating at a certain height at least one extractable basket 11 for the dishes to be washed. Preferably the washing compartment 4 also accommodates at least one lower 5 extractable basket (which is not shown for the sake of simplicity).

The basket 11 is associated with a body 5, for example of substantially quadrangular shape as shown in Figure 2 and made of rigid plastics material, which along the sides of the basket is shaped with respective tracks 6 extending longitudinally from the rear part of the body itself and of a substantially C-shaped section.

10 Co-operating with each track 6 is a slidable support bar 7 which preferably is aligned with the body 5. Preferably also the sliding movement of the bar 7 with respect to the corresponding track 6 is made easier by virtue of the interposition of two or more rollers 9 or the like.

15 The bar 7 comprises a rear portion 10 which is enlarged outwardly and which is capable of engaging slidably with respective longitudinal guide and support channels 8 which are provided integrally on the side walls of the washing compartment 4 and delimited by a front stop 15.

As shown in Figure 3 the channels 8 preferably have oppositely disposed 20 raised edges 12 and are coupled to the respective slidable bars 7 with the interposition of at least one pair of small wheels 13. The latter are preferably latchingly engaged on respective elastic pins 14 integrally provided on the bars 7.

In any case the play between the slidable bars 7 and the tracks 6 of the body 5 on the one hand and between the bars 7 and the channels 8 on the other hand is at 25 a minimum in such a way that the weight of the basket 11, particularly when it is in the extracted position shown in Figures 1 and 2, is carried on a substantially ample surface area. It will be appreciated that this advantageously manifests itself in a lower level of mechanical stressing of the interconnected guide elements 5-8.

When the basket 11 is inserted into the washing compartment 4 the track 6 of the body 5, the slidable bar 7 and the channels 8 of the washing compartment are 30 substantially in side-by-side relationship in a longitudinally compact condition in per se known manner (not shown).

When the basket 11 is extracted from the washing compartment 4 in a substantially horizontal direction, after a loading door of the dishwasher (not shown) has

been opened, the guide system 5-8 is longitudinally extended telescopically. In particular the enlarged portions 10 of the bars 7 come into a condition of abutment against the stops 15 of the channels 8 and the basket 11 continues its extraction travel movement by virtue of the further sliding motion of the channels 6 with respect to the bars 7.

5 It will be appreciated that extraction of the basket 11 will preferably be defined by suitable end-of-travel means (known per se and not shown) which are interposed between the bars 7 and the body 5.

In any case the slidable guide system 5-8 is such as to advantageously permit complete extraction of the basket 11 from the washing compartment, as shown in  
10 Figures 1 and 2, in such a way as to permit complete and convenient access to the basket.

In this connection it will be noted that the body 5 is not necessarily fixedly connected to the basket 11. In contrast the body 5 may advantageously constitute a rigid frame capable of sliding with respect to the guides 6-8 and suitably removably supporting  
15 one or more complementary baskets 11, substantially as described in Italian utility model application No 20462 B/78 filed on 12th January 1978. Accordingly the basket (or the complementary baskets) 11 can be easily removed from the frame 5 with a simple vertical lifting movement which will be further facilitated by the complete extraction of the frame 5.

20 It will be appreciated that the described dishwasher may be the subject of numerous modifications which fall within the scope of the invention as defined in the appended claims.

## CLAIMS

1. A dishwasher comprising a washing compartment in which is accommodated at least one dish-carrying basket capable of longitudinally sliding in such a way as to be extracted from the washing compartment when a loading door is opened, wherein said basket is associated with at least one body which along the sides of the basket is shaped with respective longitudinal tracks each co-operating with a slidable support bar which in turn is slidably engaged with a respective guide channel fixed with respect to a respective side wall of the washing compartment.
- 10 2. A dishwasher according to claim 1 wherein said body constitutes a rigid frame capable of removably supporting said basket or a plurality of complementary baskets.
- 15 3. A dishwasher according to claim 1 or 2, wherein said slidable bars are substantially aligned with said body.
4. A dishwasher according to claim 1, 2 or 3, wherein said bars comprise respective rear outwardly enlarged portions by means of which they are capable of 20 slidably engaging with said guide channels.
5. A dishwasher according to any one of the preceding claims, wherein said guide channels are integrally provided on the side walls of the washing compartment.
- 25 6. A dishwasher according to any one of the preceding claims, wherein said bars are connected to said tracks of the body with the interposition of sliding rollers or the like.
7. A dishwasher according to any one of the preceding claims, wherein said 30 channels are connected to the respective slidable bars with the interposition of small wheels.

8. A dishwasher according to claim 7 wherein said small wheels are latchingly engaged on respective elastic pins formed integrally with said bars.
9. A dishwasher substantially as hereinbefore described with reference to and  
5 as illustrated in the accompanying drawings.